



National Transportation Safety Board Aviation Accident Final Report

Location:	MIAMI, FL	Accident Number:	MIA82FA051
Date & Time:	02/17/1982, 1545 EST	Registration:	N4734
Aircraft:	BOEING 727-235	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Serious, 1 Minor, 51 None
Flight Conducted Under:	Part 121: Air Carrier - Scheduled		

Analysis

DURING TAKEOFF ROLL A LOUD BANG WAS HEARD & THE TAKEOFF ABORTED. THE TOWER ADVISED THE FLT OF EXTENSIVE FIRE IN THE TAILAREA. THE PLT CLEARED THE ACTIVE RWY & THE ACFT WAS EVACUATED. 1 PAX SUFFERED A FRACTURED ANKLE & ANOTHER A SPRAINED ANKLE. AN EXPLOSION HAD OCCURRED IN THE #2 ENG DUE TO A FAILED FRONT COMPRESSOR FRONT HUB. THE MAIN FUEL SUPPLY LINE TO THE #2 ENG WAS SEVERED CAUSING THE FIRE. METALLURGICAL EXAMINATION REVEALED THAT THE HUB FRACTURED RADIALY THROUGH THE BORE & RIM IN TWO LOCATIONS RELEASING TWO SECTIONS. FATIGUE HAD ORIGINATED AT A NONCONFORMING CIRCUMFERENTIAL GROOVE AT THE REAR OF ONE TIE ROD HOLE. THE SURFACE OF THE GROOVE EXHIBITED A VERY ROUGH, SMEARED APPEARANCE & THERE WERE NUMEROUS AXIAL CRACKS.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

Findings

Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - MECH FAILURE/MALF
Phase of Operation: TAKEOFF - ROLL/RUN

Findings

1. (C) COMPRESSOR ASSEMBLY - FATIGUE
 2. (C) COMPRESSOR ASSEMBLY - FAILURE,TOTAL
 3. (F) INADEQUATE QUALITY CONTROL - MANUFACTURER
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Occurrence #2: FIRE/EXPLOSION
Phase of Operation: TAKEOFF - ROLL/RUN

Factual Information

Pilot Information

Certificate:	Airline Transport	Age:	42, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Unknown
Other Aircraft Rating(s):		Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	02/02/1982
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	9000 hours (Total, all aircraft), 7000 hours (Total, this make and model), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BOEING	Registration:	N4734
Model/Series:	727-235 727-235	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:		Serial Number:	19454
Landing Gear Type:	Retractable - Tricycle	Seats:	136
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	142000 lbs
Time Since Last Inspection:	0 Hours	Engines:	3 Turbo Fan
Airframe Total Time:	38448 Hours	Engine Manufacturer:	P & W
ELT:	Not installed	Engine Model/Series:	JT8D-7B
Registered Owner:	PAN AMERICAN WORLD AIRWAYS, IN	Rated Power:	14000 lbs
Operator:	PAN AMERICAN WORLD AIRWAYS, IN	Operating Certificate(s) Held:	Flag carrier (121)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0000	Direction from Accident Site:	0°
Lowest Cloud Condition:	Scattered / 3000 ft agl	Visibility	7 Miles
Lowest Ceiling:	Overcast / 8000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	60°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	68° C / 0° C
Precipitation and Obscuration:			
Departure Point:	MIAMI, FL (MIA)	Type of Flight Plan Filed:	IFR
Destination:	ORLANDO, FL (C)	Type of Clearance:	
Departure Time:	0000	Type of Airspace:	

Airport Information

Airport:	MIAMI INTERNATIONAL (MIA)	Runway Surface Type:	Macadam
Airport Elevation:	0 ft	Runway Surface Condition:	Dry
Runway Used:	27	IFR Approach:	None
Runway Length/Width:	13002 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	6 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious, 1 Minor, 45 None	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	On-Ground
Total Injuries:	1 Serious, 1 Minor, 51 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	Report Date:	02/17/1983
Additional Participating Persons:		
Publish Date:		
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .	

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).